

JOURNAL: J. Reticuloendothel. Soc. DATE: 1979 VOLUME: 26 NUMBER: 3
PAGES: 249-58

7/AU,SD,TI,AB/15

Comparative enzymic investigations concerning the energy-producing metabolic systems in pigs. Part 3. Enzyme activity patterns of fatty acid oxidation, the glycolytic side path, and the respiratory chain as well as the interrelations among them in the heart-muscle tissue

AUTHOR(S): Dzapo, V.; Wassmuth, R.

JOURNAL: Zuechtungskunde DATE: 1978 VOLUME: 50 NUMBER: 5 PAGES: 378-90

7/AU,SD,TI,AB/16

Disruption of the normal gas exchange of plants - a factor interfering with the protective action of sugars and glycerol

AUTHOR(S): Rakitina, Z. G.

JOURNAL: Fiziol. Rast. (Moscow) DATE: 1978 VOLUME: 25 NUMBER: 3
PAGES: 584-91

7/AU,SD,TI,AB/17

Uptake and respiration of organic compounds and heterotrophic growth in *Pediastrum duplex* (Meyen)

AUTHOR(S): Berman, Thomas; Hadas, Ora; Kaplan, Bina

JOURNAL: Freshwater Biol. DATE: 1977 VOLUME: 7 NUMBER: 5 PAGES: 495-502

7/AU,SD,TI,AB/18

Oxygen consumption, fatty acid, and glycerol uptake of the liver in fed and fasted sheep during cold exposure

AUTHOR(S): Thompson, G. E.; Gardner, J. W.; Bell, A. W.

JOURNAL: Q. J. Exp. Physiol. Cogn. Med. Sci. DATE: 1975 VOLUME: 60
NUMBER: 2 PAGES: 107-21

7/AU,SD,TI,AB/19

Effects of cold exposure and feeding on net exchange of plasma free fatty acids and glycerol across the hind leg of the young ox

AUTHOR(S): Bell, A. W.; Thompson, G. E.

JOURNAL: Res. Vet. Sci. DATE: 1974 VOLUME: 17 NUMBER: 2 PAGES: 265-7

7/AU,SD,TI,AB/20

Role of pyridine nucleotides in the control of respiration in ultraviolet-irradiated *Escherichia coli* B/r cells

AUTHOR(S): Swenson, Paul A.; Schenley, R. L.

JOURNAL: J. Bacteriol. DATE: 1970 VOLUME: 104 NUMBER: 3 PAGES: 1230-5

7/AU,SD,TI,AB/21

Changes in interscapular brown adipose tissue of the rat during perinatal and early postnatal development and after cold acclimation. I. Activities of some respiratory enzymes in the tissue

AUTHOR(S): Barnard, Tudor; Skala, Josef; Lindberg, Olov

JOURNAL: Comp. Biochem. Physiol. DATE: 1970 VOLUME: 33 NUMBER: 3
PAGES: 499-508

7/AU,SD,TI,AB/22

Competitive effect of succinate on glycerol 1-phosphate oxidation in liver mitochondria from thyroxine-treated rats

AUTHOR(S): Swanljung, P.; Saris, N. E. L.

JOURNAL: FEBS (Fed. Eur. Biochem. Soc.) Lett. DATE: 1969 VOLUME: 5
NUMBER: 4 PAGES: 299-300

7/AU,SO,TI,AB/23

Changes of some biochemical indexes in animals under the effect of acceleration after gamma-irradiation

AUTHOR(S): Abaturova, E. A.; Antipov, V. V.; Davydov, B. I.; Demochkina, N. G.

JOURNAL: Probl. Kosm. Biol. DATE: 1967 VOLUME: 6, PAGES: 338-45

7/AU,SO,TI,AB/24

Oxidative phosphorylation by mitochondria from brown adipose tissue

AUTHOR(S): Hohorst, Hans J.; Rafael, Johannes

JOURNAL: Hoppe-Seyler's Z. Physiol. Chem. DATE: 1968 VOLUME: 349

NUMBER: 2 PAGES: 268-70

7/AU,SO,TI,AB/25

Relation between activity of acid-fast bacilli and osmotic value of environment. II. Influence of osmotic-pressure on oxidation of glucose and glycerol by acid-fast bacilli

AUTHOR(S): Nishio, Takamasa

JOURNAL: Hiroshima Daigaku Igaku Zasshi DATE: 1967 VOLUME: 15 NUMBER: 7,8 PAGES: 541-8

7/AU,SO,TI,AB/26

Study of the oxidation of palmitate-1-14C, glycerol-1-14C, and glucose-1-14C by the diaphragms of normal and nephrotic rats

AUTHOR(S): Stoffels, Gui L.; Van den Bergen, C. J.; Malmendier, Claude L.

JOURNAL: Rev. Fr. Etud. Clin. Biol. DATE: 1966 VOLUME: 11 NUMBER: 7

PAGES: 714-18

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FLOPPY NR.: -                 LI: C:\IUK\JWST072.WM
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Datenbankanbieter: DIALOG

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Suchtabelle BIOSIS:

Set	Items	Description
52	12	RAT AND LARYNX AND SURFACE?

2/AU, TI, SO, AB/1

AU- NAKAGAWA M^IIMURA A^OHKUBO M^UCHINO S^

TI- LARYNGEAL LYMPHATIC VESSELS OF RATS:

SO- <JN> ACTA ANAT NIPPON

SO- <PY> 63 (6). 1988. 522-530.1

AB- Fine distribution of lymphatic vessels in the vocal fold and surrounding areas was observed histologically by light and electron microscopes, using 12 Wistar rats weighing 270-350g. The ventricular fold and the laryngeal ventricle were not found to exist in rats. The vocal fold showed lateral embankmental eminence extending dorsoventrally on the internal surface of the larynx. The dorsal half (cartilagenous part) of the fold was based on the vocal process of the arytenoid cartilage and the arytenoid muscles, and the ventral half (membranous part) was based on the vocal ligament and the vocal muscle, respectively. The cartilagenous part was covered with thick mucosa with ciliated epithelium. Under the epithelium, thin elastic plate composed of somewhat loosely arranged fibrous bundles showed lamellar structure with several layers running mainly in the rostrocaudal direction. The membranous part of the fold was lined with non-keratinized stratified epithelium, and the vocal ligament was directly adjacent to the loose, thin elastic plate. No lymphatic vessels were found in the membranous part of the vocal fold, in the ventral and the dorsal median walls of the glottic region. In contrast, lymphatic vessels were found in the mucosa of the cartilagenous part of the vocal fold. Since the arytenoid muscle was connected to the dorsal part of the cartilage at an angle that resembles a "<" shape toward the contra-mucosa, the mucosa of the cartilagenous part of the vocal fold was thickened, and contained lymphatic vessels between the epithelium and glands, both in the lamellae of the elastic plate (superficial lymphatic vessels) and in the contra-epithelial area of the elastic plate (deep lymphatic vessels). The superficial lymphatic vessels were

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joined to the deep lymphatic vessels without forming the lymphatic network. The deep lymphatic vessels with no valves were much thinner than those in other sites of the larynx, and formed a network with large meshes. The lymphatic network was continuous caudally to that of the infraglottic region, and rostrally to that of the supraglottic region. The lymphatic networks on both sides of the glottic region had no contralateral communications until they reached the interarytenoid groove. In the infraglottic region, the mucosa was thick and rich in glands and lymphoid follicles, and the superficial and deep lymphatic vessels were divided by the elastic plate in the same manner as the cartilagenous part of the vocal fold was. The superficial lymphatic vessels were a bit thin and linked directly to the deep lymphatic vessels. Most parts of the deep lymphatic vessels were thick without any valves, and formed a network with large meshes. Since the elastic bundles of the mucosa were poor and arranged irregularly, there was no distinction between the superficial and the deep lymphatic vessels near the caudal border of the vocal ligament in the infraglottic region. The lymphatic vessels did not enter the mucosa covering the vocal ligament from here. In contrast, no such changes were found near the caudal border of the arytenoid cartilage in the infraglottic region. The lymphatic network this continued from the infraglottic region to the cartilagenous part of the vocal fold. In the mucosa of the supraglottic region, big lymphatic vessels with relatively few valves formed a mono-layer network, which continued caudally with that of the cartilagenous part of the vocal fold and rostrally to that in the mucosa of the epiglottis and the aryepiglottic fold. Contralateral continuation of the lymphatic network was found at the ventral median wall and the interarytenoid groove. Basing upon the distinction of lymphatic distribution, the rat larynx was divided into six compartments, namely, dorsal halves of the right and left vocal folds, ventral halves of the vocal folds, one supraglottic region and one infraglottic region.!!

2/AU, TI, SO, AB/2

AU- HANAUER G1

TI- ADMINISTRATION OF RADIOIODINE TO PRODUCE AN ATHYROID MODEL ANIMAL!

SO- <JN> Z VERSUCHSTIERKDI

SO- <PY> 32 (1). 1989. 7-15.!

AB The resection of thyroid gland with radioiodine is a painless method to eliminate the G1. thyroidea. By the present investigation it could be demonstrated that the thyroid gland of Wistar rats with a body mass between 100 and 500 g can be safely eliminated by administering them 2 doses of 18.5 MBq (0.5 mCi) ¹³¹I with a waiting period of 7 d in between. Application of 37.0 MBq (1.0 mCi) ¹³¹I once is, with regard to the radio-hygiene, to prefer, since the rats were contaminated on the surface when administering them iodine for the second time. The success of the experiment has been controlled in vitro and in vivo. Measuring the extirpated larynx region in the borehole of a gammacounter after a diagnostic labelling has been found to be an useful control method in vitro. Histological investigation of the larynx is extremely time-consuming. Besides it was not always possible to distinguish the single ratio-iodine treated groups with this method. Since there were some animals showing residual thyroid tissue, the control by means of the development of the body masses cannot be recommended. Apart from this the development of the body masses depended very much on the surrounding temperature in which the animals were kept. The rectal temperature of the rats also depended on various external disturbances, so that this parameter failed to control the function of the thyroid gland.!!

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2/AU, TI, SO, AB/3

AU- GELEFF S[^]BOCK P[^]STOCKINGER L ITI- LECTIN-BINDING AFFINITIES OF THE EPITHELIUM IN THE RESPIRATORY TRACT A
LIGHT MICROSCOPIC STUDY OF CILIATED EPITHELIUM IN RAT GUINEA-PIG AND
HAMSTER I

SO- <JN> ACTA HISTOCHEM I

SO- <PY> 78 (1). 1986. 83-95. I

AB- Complex carbohydrate components of surface coat and secretory granules were investigated in the laryngo-tracheo-bronchial epithelium of 3 laboratory animals (rat, guinea pig, and Syrian hamster). 2 groups of epithelial cells were distinguished in the light microscope: ciliated cells and non-ciliated cells. The latter mainly represent secretory cells and are subdivided into serous and mucous secretory cells. 1. Apical glycocalix: In the rat, ciliated cells possess a significant number of Con A, RCA I, and WGA receptors, and a smaller number of UEA I binding sites. In hamsters and in guinea pigs additional binding sites for HPA could be demonstrated. The apical glycocalix of the non-ciliated cells in the rat evince marked staining with RCA I, WGA, and HPA, and less intensive binding of UEA I. In guinea pigs and in hamsters, the presence of additional Con A receptors were noted. 2. Basolateral glycocalix: The basolateral surface coat of ciliated and non-ciliated cells shows identical lectin binding affinities. In the rat, the basolateral glycocalix binds RCA I; in the guinea pig, in addition, positive staining with UEA I and HPA is observed; in the hamster, the basolateral surface coat is outlined by RCA I and HPA receptors. 3. Secretory products: Secretory granules of mucous cells in the rat react with Con A, UEA I and HPA lectins. In guinea pigs, these substances also bind RCA I and WGA lectins. Mucous granules in the secretory cells of the hamster are positive for Con A, RCA I, and HPA lectins. Granules of non-ciliated serous cells of rats bind Con A, UEA I, and HPA lectins. In the guinea pig, this reaction is weaker for UEA I lectin but comparable for Con A and HPA binding. A positive reaction with RCA I lectin only is found in the serous secretory granules of the hamster. II

2/AU, TI, SO, AB/4

AU- COHEN B S[^]HARLEY N H[^]TSD T C ITI- CLEARANCE OF POLONIUM-210-ENRICHED CIGARETTE SMOKE FROM THE RAT TRACHEA
AND LUNG I

SO- <JN> TOXICOL APPL PHARMACOL I

SO- <PY> 79 (2). 1985. 314-322. I

AB- The distribution and clearance of .alpha. radioactivity in the lungs of rats were measured after inhalation of smoke from cigarettes highly enriched in 210Po. Female Fischer rats were exposed daily for 6 mo. to smoke from cigarettes with 500-fold the normal content of 210Po. Control rats were exposed to standard cigarette smoke. Animals were serially withdrawn and killed. After necropsy the trachea, major bronchi, larynx and nasopharynx were examined for surface .alpha.-activity by an etched track technique utilizing cellulose nitrate detectors. Areas of accumulated activity were seen on samples of larynx from rats exposed to the 210Po-enriched cigarettes. No other local accumulations were seen on the airways. The lower lungs were analyzed radiochemically for 210Po. Radiochemical analysis and track measurements showed highly elevated activity concentrations in rats exposed to the 210Po-enriched cigarettes. Following withdrawal from smoking short- and long-term clearance components were seen. The parameters which fit the postexposure data for clearance of the lung burden did not fit the buildup during the exposure period. II

2/AU, TI, SO, AB/5

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AU- BOECK P I
 TI- ELASTIC FIBER MICRO FIBRILS FILAMENTS THAT ANCHOR THE EPITHELIUM OF THE EPIGLOTTIS I
 SO- <JN> ARCH HISTOL JPN I
 SO- <PY> 46 (3). 1983. 307-314. I
 AB- EM study of the epiglottis in the rat and mouse reveals bundles of tubular-shaped filaments (11 nm diameter) that anchor the basal lamina of the epithelial lining. These anchoring filaments are present both on the laryngeal and oral surfaces of the organ. The filaments are continuous to elastic fiber microfibrils (EFM) of elastic fibers in the underlying connective tissue. EFM in adults may function as anchoring filaments for cells and connective tissue fibers.!!

2/AU, TI, SO, AB/6

AU- SHROIT I G^VASILOS L V^KOZLYUK A S I
 TI- INFECTION SYNDROME IN RESPIRATORY MYCOPLASMOSIS I
 SO- <JN> PEDIATRIYA (MOSC) I
 SO- <PY> 0 (7). 1981. 9-11. I
 AB- The incubation period of Mycoplasma pneumoniae infection in children (the 1st yr of life) lasts 1-3 days; in older children it lasts 6-10 days. During the first few hours after infection, 78.6% of the pediatric patients develop the infection syndrome (signs of transient acute laryngotracheitis). Soon after intranasal inoculation of monkeys, hamsters, rabbits and rats, M. pneumoniae is fixed and multiplies on the surface of the epithelium of the mucous membrane of the trachea and bronchi, causing alterative and reactive changes.!!

2/AU, TI, SO, AB/7

AU- FIALA S^TROUT E C JR^TEAGUE C A^FIALA E S I
 TI- GAMMA GLUTAMYL TRANSFERASE EC-2.3.2.2 A COMMON MARKER OF HUMAN EPITHELIAL TUMORS? I
 SO- <JN> CANCER DETECT PREV I
 SO- <PY> 3 (2). 1980 (1981). 471-486. I
 AB- Having previously established gamma-glutamyltransferase (GGT) as a marker of experimental carcinogenesis in rat liver, human tumors were investigated for histochemical differences in activity or localization of this enzyme as compared to their tissue of origin. Such differences were found in each of the human carcinomas examined. The presence of GGT activity in carcinomas arising in organs normally containing little (tongue) or not GGT activity (larynx, urinary bladder and esophagus) clearly distinguished cancerous from normal epithelium. In the breast, colon and prostate, GGT activity was normally present in a defined anatomical distribution bordering luminal surfaces. Carcinomas arising from these tissues showed a loss of the normal pattern of activity and contained cells with almost homogenous GGT activity in the cytoplasm. Such differences clearly distinguished carcinomatous from normal epithelium in these organs. The increased GGT activity observed in all 9 carcinomas arising from 7 organs suggests that GGT may be a common marker of human epithelial tumors and staining for GGT may become a useful tool in the detection of human epithelial neoplasms.!!

2/AU, TI, SO, AB/8

AU- LEWIS D J^PRENTICE D E I
 TI- THE ULTRASTRUCTURE OF RAT LARYNGEAL EPITHELIA I
 SO- <JN> J ANAT I
 SO- <PY> 130 (3). 1980. 617-632. I
 AB- Histology, ultrastructure and surface topography of rat laryngeal epithelia are described. Five epithelial types are identified. Stratified squamous epithelium is found over most of the epiglottis, arytenoid projections and lateral ventricles. The vocal folds are

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covered by a low squamoid type of epithelium. Respiratory epithelium, similar to that found elsewhere in the respiratory tract, occupies all the mucosa caudal to the vocal folds, small areas at the base of the epiglottis and along the inner aspects of the arytenoid projections. Two forms of relatively unusual pseudostratified cuboidal epithelium are present in the ventrolateral aspect at the level of arytenoid projections and within the ventral pouch. Non-myelinated, intra-epithelial nerve fibers are found throughout the larynx and are abundant in areas at the base of the epiglottis covered by respiratory epithelium and to a lesser extent in the cuboidal epithelium of the ventral pouch. Globule leukocytes are frequently found in respiratory epithelium, less frequently in cuboidal epithelium and rarely in squamous areas.!!

2/AU, TI, SO, AB/9

AU- SPICER S S^FRAYSER R^VIRELLA G^HALL B J!

TI- IMMUNO CYTOCHEMICAL LOCALIZATION OF LYSOZYMES IN RESPIRATORY AND OTHER TISSUES!

SO- <JN> LAB INVEST!

SO- <PY> 36 (3). 1977 282-295.1

AB- Immunostaining paraffin sections of appropriately fixed tissues with an antiserum to human urinary lysozyme as the primary step in an immunoglobulin-peroxidase bridge method localized lysozyme in previously recognized sites such as Paneth cells, renal tubules, and lymph node macrophages in several species. In addition, lysozyme was demonstrated in the ciliary layer of the trachea, type II pneumocytes, and cells of presumed mucoid nature in laryngotracheal glands. Large stellate cells in follicle centers in the lymph nodes and spleen and in the medulla of the thymus evidenced strong lysozyme reactivity. Granular pneumocytes disclosed immunoreactivity for lysozyme also at the ultrastructural level. Lysoplate assay demonstrated lysozyme in abundance in both the cellular pellet and acellular supernatant of rat alveolar wash fluid and in rat lung after repeated washing of alveoli. Hamster lung differed from the others in failing to immunostain for lysozyme and affording no evidence for content of lysozyme as determined by lysoplate assay. Sites stained with antiserum to human urinary lysozyme failed to stain with antiserum to egg white lysozyme. However, the pyloric glands, Golgi elements in intestinal epithelium, the surface of the colon, and the proximal straight renal tubule of the mouse stained exclusively with the antiserum to hen egg white lysozyme. Many sites staining with antiserum to urinary lysozyme in respiratory, renal and lymphoid tissue lacked reactivity in control sections exposed to this antiserum after it was absorbed with purified urinary lysozyme. However, mucous acini in submandibular glands, although failing to stain with other control procedures, retained reactivity toward the absorbed antiserum, possibly through reacting with an antibody other than that for human urinary lysozyme. A number of cell types containing proteinaceous cytoplasmic granules stained in control sections exposed to normal serum in place of antilysozyme serum in the immunoglobulin-peroxidase bridge procedure and, thus, possessed selective, but nonimmunospecific affinity for immunoglobulin. Cell types that stained with antiserum to hen egg white lysozyme lost affinity for the antiserum after its absorption with egg white lysozyme but retained the affinity after absorption with urinary lysozyme. [Lysozyme has antibacterial action.]!

2/AU, TI, SO, AB/10

AU- SMOLICH J J^STRATFORD B F^MALONEY J E^RITCHIE B C!

TI- POST NATAL DEVELOPMENT OF THE EPITHELIUM OF LARYNX AND TRACHEA IN THE RAT SCANNING ELECTRON MICROSCOPY!

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SO- <JN> J ANAT!

SO- <PY> 124 (3). 1977 657-674.!

AB- Two periods, the early postnatal and the mature, were recognized. The early postnatal period, the first 3 wk after birth, was characterized by the presence of abundant and atypical mucin-containing cells, lesser number of low electron responsive and ciliated cells, infrequent brush cells and primary cilia. Regional differences in the morphology and distribution of the different cell types also occurred. The mature period was divided into early and late phases. All cell types of the epithelium displayed filamentous strands between their apical projections. These appeared to be extensions of the glycocalyx. Cell borders separated the cells of the epithelium and, on non-ciliated cells other than brush cells, had a characteristic structure where altered with maturation. Brush cells may be active in the absorption of mucus. Scanning electron microscopy of biological tissue surfaces may in reality demonstrate the glycocalyx. The electron response of a tissue surface may be related to the density of exposed, potential acid radicals in the glycocalyx.!!

2 U, TI, SO, AB/11

AU- BREIPOHL W^HERBERHOLD C^KERSCHEK R!

TI- MICRO RIDGE CELLS IN THE LARYNX OF THE MALE WHITE RAT INVESTIGATIONS BY REFLECTION SCANNING ELECTRON MICROSCOPY!

SO- <JN> ARCH OTD-RHINO-LARYNGOL!

SO- <PY> 215 (1). 1977 1-9.!

AB- The laryngeal epithelium of male white rats was studied by reflection scanning electron microscopy (SEM). In addition to ciliated cells, microvilli cells, brush cells and goblet cells, characteristic for normal respiratory epithelium, the microridge or labyrinth cell was seen in particular regions of the larynx. The apical surface of a typical labyrinth cell was characterized by a system of narrow standing microridges of about 0.05-0.15 .mu.m in diameter and interconnecting microridges with a diameter of about 0.01 .mu.m. The microridge system of a labyrinth cell originated from the fusion of densely standing microvilli. Between microridge cells and microvilli cells, all transition forms were observed. The preferable localization of the microridge cell in the larynx and its possible function was discussed.!

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2/AU, TI, SO, AB/12

AU- DONTENWILL W^HARKE H-P^CHEVALIER H-J!

TI- COMPARATIVE STUDIES OF THE DEPOSITION OF SMOKE AEROSOL IN THE RESPIRATORY TRACT OF LABORATORY ANIMALS!

SO- <JN> Z VERSUCHSTIERKD!

SO- <PY> 18 (4). 1976 202-206.!

AB- Syrian golden hamsters, rats, European hamsters [*Cricetus cricetus*] and mice were exposed to ¹⁴C-labeled [cigarette] smoke. The deposition of activity was measured at the tongue, larynx, trachea and lung. All animals showed the strongest deposition per surface unit in the larynx.!!

\$17.49 Estimated total session cost 0.128 Hrs.

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172	Embase	06.74-12.79	
173	Embase	01.80-12.81	
5	Biosis	01.69-02.90	

Suchtabelle (Suche in allen Files gleichzeitig):

Seq.	Items	Description
S1	1465	(ACETIC (W) ACID OR CITRIC (W) ACID) AND RESPIRAT?
S2	36363	LARYNX
S3	22	S1 AND S2
S4	16	RD S3 (unique items)
S5	3	S1 AND PKA
S6	3	S5 NOT S4
S7	2	RD S6 (unique items)
S8	50	PKA AND (ACETIC (W) ACID OR CITRIC (W) ACID)

4/AU,SO,TI,AB/1 (Item 1 from file: 155)

The distribution of mucosal lymphoid nodules in the equine respiratory tract.

Mair IS; Batten EH; Stokes CR; Bourne FJ
J Comp Pathol Aug 1988, 99 (2) p159-68,

Mucosal lymphoid nodules were identified within the equine respiratory tract by an acetic acid fixation technique. Nodules were identified in foetuses from nine months gestational age, and estimates of total and regional nodule populations were made in foetal, neonatal and adult horses. Nodules occurred at specific sites within the tract, which probably relate to areas where inhaled antigens accumulate. The largest populations of nodules occurred in the nasopharynx and larynx, with smaller numbers in the nasal cavity, trachea and bronchi. There was an age-related change in the size of these nodule populations, with an increase in number from late gestation to the neonatal period to early adulthood (up to 5 years of age), followed by a decrease in older adults.

4/AU,SO,TI,AB/2 (Item 2 from file: 155)

Partitioning the respiratory effects of airway citric acid and normal saline in lambs.

Hutchison AA; Caton D; Thomas RG; Bucciarelli RL

Pediatr Pulmonol Jan-Feb 1987, 3 (1) p45-50,

Aspiration is common in the intubated human neonate. Thus, the ventilatory and blood gas responses to citric acid and saline instillation into different airway sites were studied in ten awake, unanesthetised lambs, breathing spontaneously via a tracheostomy tube. With a system of balloons, 1 ml of saline or citric acid was placed selectively into the midtrachea, the laryngeal area, or the lower trachea (lower tr). Changes in minute ventilation (VE), after a 30 sec baseline period, were measured 30 sec and 1 and 2 min after the challenge. Arterial blood gas changes were measured at 30 sec and 2 min. Major increases in VE were seen only when

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saline or citric acid was instilled into the lower tr, the citric acid responses exceeding saline ones. The arterial oxygen tension (PaO₂) fell after lower tr saline, whereas the arterial CO₂ tension (PaCO₂) fell with midtracheal saline instillation. A rise in pH and a fall in PaCO₂ accompanied citric acid given into the lower tr. An initial rise in PaO₂ after citric acid into the lower tr was followed by a return to baseline despite hyperventilation. The ventilatory and blood gas changes with saline and citric acid depend on the site of airway instillation.

4/AU,SO,II,AB/3 (Item 3 from file: 155)

Airway anaesthesia and breathing pattern during exercise in normal subjects and in eucapnic patients with chronic airflow obstruction.

Van Meerhaeghe A; Bracamonte N; Willeput R; Sergysels R

Bull Eur Physiopathol Respir Jul-Aug 1986, 22 (4) p381-5,

In order to deprive vagal upper and large airway receptors, an aerosol of 4% lidocaine (240 mg) was delivered to eight normal subjects and to eight eucapnic patients with chronic obstructive pulmonary disease (COPD). After this procedure, gag reflex (mechanical irritation of the larynx) and cough reflex tested by an aerosol of 10% citric acid were absent in all subjects. The anaesthesia was tolerated well by all the subjects and did not influence baseline pulmonary function tests. Moreover, during exercise, before and after lidocaine, no significant difference in O₂ intake (V_{O2}) or in blood gases (measured in patients only) could be observed. After lidocaine administration, no significant changes were seen in any of the respiratory variables studied in normal subjects or in COPD patients compared to the basal conditions. This could indicate that vagal upper and large airway receptors do not play an important role for the breathing pattern and ventilatory drive during exercise either in normal subjects or eucapnic patients with COPD.

4/AU,SO,II,AB/4 (Item 4 from file: 155)

Effect of lidocaine on the ventilatory and airway responses to exercise in asthmatics.

Enright PL; McNally JF; Souhrada JF

Am Rev Respir Dis Dec 1980, 122 (6) p823-8,

An aerosol of 4% lidocaine was delivered during the last third of inspiration to patients with bronchial asthma while they were quietly breathing. After this procedure, both cough reflex (inhalation of 10% citric acid) and gag reflex (mechanical irritation of the larynx) were absent in all patients for 15 to 20 min. This type of anesthesia was tolerated well by all patients, and did not significantly influence baseline pulmonary function tests. On another day, this procedure was used prior to treadmill exercise testing. Anesthesia blocked the development of exercise-induced bronchoconstriction (EIB) after the exercise period, as measured by FEV₁, FEF_{25-75%}, V_{max}70% TLC, and specific airway conductance (SGaw). It was also found that the degree of minute ventilation (VE), as measured during exercise with airway anesthesia, significantly decreased (p < 0.01) compared with VE measured during exercise without lidocaine. The results suggested that local anesthesia of the upper and large airways in patients with bronchial asthma can significantly inhibit EIB and significantly decrease VE during moderate exercise. It can be postulated that mucosal receptors in the upper and large airways are directly involved in the initiation of EIB, and that their stimulation may be responsible for

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increased ventilation during exercise.

4/AU,SO,TI,AB/5 (Item 5 from file: 155)

Laryngeal chemoreflex in newborn lambs: respiratory and swallowing response to salts, acids, and sugars.

Kovar I; Selstam U; Catterton WZ; Stahlman MT; Sundell HW

Pediatr Res Oct 1979, 13 (10) p1144-9.

The laryngeal chemoreflex was tested in a standardized manner in eighteen 1- to 6-day-old lambs. The respiratory and swallowing components of the reflex response to chemical solutions introduced to the larynx were quantified to characterize the function of the receptors and to elucidate what kind of receptors most likely are involved. A relationship between the strength of the stimulus and the respiratory response was found. The response was suppressed with the addition of small amounts of CaCl_2 , NaCl , and LiCl . NaCl , 0.3--0.6 M, 0.15 M NaCl titrated to a pH of 3--5 with hydrochloric or acetic acid, and 0.25--1.0 M glucose in 0.15 M NaCl elicited the reflex response. A quantitative separation was seen in the respiratory response to equimolar concentrations of the salt solutions as well as to the acid solutions in normal saline with equal pH. The response to glucose was significantly reduced after application of potassium gymemate (P less than 0.001). A direct relationship between the amount of swallowing and the respiratory response was found ($r = 0.83$). The laryngeal chemoreflex responses to the stimuli used have certain functional characteristics that are similar to taste receptor responses. This would suggest that the taste bud-like structures present in the laryngeal area are likely receptors for mediation of the reflex.

4/AU,SO,TI,AB/6 (Item 1 from file: 72)

Responses of lamb nucleus of the solitary tract neurons to chemical stimulation of the epiglottis

Sweazey R.D.; Bradley R.M.

BRAIN RES. , 1988, 439/1-2 (195-210)

Previous research has shown that applications of chemical stimuli to the epiglottis produced distinct patterns of activity in the lamb superior laryngeal nerve. To determine the response characteristics of second-order neurons, we recorded from single cells in the lamb nucleus of the solitary tract (NST) while stimulating the epiglottis with 0.5 M KCl , NH_4Cl , NaCl , LiCl , distilled water, 0.005 M citric acid and 0.01 N HCl . Most neurons responded to more than one of the chemical solutions. The order of effective stimuli was $\text{KCl} = \text{NH}_4\text{Cl} > \text{distilled water} > \text{HCl} > \text{citric acid} > \text{NaCl} > \text{LiCl}$. An analysis of the variation in response frequency over time found that different chemical stimuli produced significantly different response patterns in NST neurons. A comparison of the mean neural response profiles of NST neurons and superior laryngeal nerve fibers for each of the stimuli found that only the response profiles elicited by NH_4Cl were significantly different. In addition to their responses to chemical solutions, almost one-third of the NST neurons responded to the rinse following application of at least some of the stimuli and 80% of the neurons were excited by mechanical stimulation of the epiglottis with a soft brush. Also, a small number of neurons exhibited a rhythmic response coordinated with respiration. The majority of recording sites were located in areas of the NST linked to swallowing and respiration suggesting that the response patterns of NST neurons elicited by chemical stimulation of

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receptors on the epiglottis may play role in upper airway reflexes.

4/AU,SD,TI,AB/7 (Item 2 from file: 72)

Clinical experience and results of treatment with suprofen in pediatrics.
1st communication: Suprofen dosage for children / An open and a double-blind study with suprofen syrup

Weippl G.; Michos N.; Bolla K.; Stocker H.

ARZNEIM.-FORSCH./DRUG RES., 1985, 35/11 (1720-1723)

The antipyretic effect of single doses of alpha-methyl-4-(2-thienylcarbonyl)-phenyl acetic acid (suprofen, Suprol (Reg. trademark)) syrup, administered at dose levels of 1, 2, 3, 4, 5, 7.5, and 10 mg/kg b.w., was tested in a randomized double-blind and a subsequent open study. The test populations consisted of 100 children in the double-blind study and 40 patients in the open test (20 subjects/group). The patients' age ranged from 2 to 12 years; the lowest initial rectal temperature was 39.0 deg. C. The treatment groups were homogeneous as to demographic data. The temperature was reduced in all treatment groups. In the double-blind study the mean value dropped under the subfebrile threshold of 38.0 deg. C only in the group on 5 mg/kg and remained then constant for up to 6 h following administration. No sufficient antipyretic effect was obtained with lower doses. The results of the additional open study with doses of 7.5 and 10 mg/kg indicated a good antipyretic effect. This effect was not, however, superior to that obtained with 5 mg/kg. Pulse and respiratory rates returned to normal within 1.5 h following administration, except in patients on 1 mg/kg. A total of 10 patients, homogeneously distributed in the treatment groups, experienced vomiting as an adverse reaction. Short-term hypotonia was seen in one subject on 7.5 mg/kg. The results obtained show that single doses of suprofen upward of 5 mg/kg b.w. exert a satisfactory, long-lasting, antipyretic effect on children.

4/AU,SD,TI,AB/8 (Item 3 from file: 72)

Superior laryngeal nerve response patterns to chemical stimulation of sheep epiglottis

Bradley R.M.; Stedman H.M.; Mistrretta C.M.

BRAIN RES., 1983, 276/1 (81-93)

Responses were recorded from single fibers of the sheep superior laryngeal nerve during stimulation of the epiglottis with 0.5 M KCl, NHsub 4Cl, NaCl and LiCl, distilled water, 0.005 M citric acid, and 0.02 N HCl. Recordings were made from both lambs and ewes. KCl elicited a response from 99% of fibers followed in order of effective stimulation by NHsub 4Cl, HCl, distilled water, citric acid, NaCl and LiCl. Analysis of the variation in response frequency with time demonstrated differences in the response patterns for these stimuli. The pattern of frequency over time is sufficient to discriminate among the salts, between some of the salts and acids, and between some of the salts and water. Therefore the response pattern may be significant in initiating the various reflex activities that occur during chemical stimulation of the larynx.

4/AU,SD,TI,AB/9 (Item 1 from file: 173)

Pharmacological study on the bromhexine metabolite ambroxol

PHARMAKOLOGISCHE UNTERSUCHUNGEN DES BROMHEXIN-METABOLITEN AMBROXOL

Pueschmann S.; Engelhorn R.

ARZNEIM.-FORSCH., 1978, Vol. 28(1)/5a (889-898),

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The pharmacological properties of the substance trans-4-((2-amino-3,5-dibromo-benzyl)amino)cyclohexanol hydrochloride (ambroxol, NA 872) are described. After oral application to guinea-pigs and rabbits, NA 872 led to a dose-dependent increase in tracheobronchial secretion. The effect was stronger than that of bromhexine. The reduction in pulmonary surfactant material in rats brought about by several days' fasting, could to a large extent be reversed by feeding NA 872. The substance inhibits the coughing reflex induced in rats by inhalation of a citric acid spray. The intensity of the effect, however, is weaker than that of codeine phosphate. The absence of both a respiratory depression and analgesic action and its but weak influence on the intestinal peristaltic activity differentiates its action profile as an antitussive agent from that of codeine. In experiments on the circulation in anaesthetized cats and dogs, short-lasting falls in the blood pressure occurred after i.v. application of 8 and 16 mg/kg. In addition, in the experiments on cats, a slowing of the heart rate also occurred in some cases, which could be confirmed by investigations on the isolated guinea-pig ventricle as being a negative chrono- and inotropic effect. In the same preparation the glycoside-conditioned arrhythmias could be inhibited by the addition of NA 872 to the perfusion fluid. The substance produced a local anaesthetic action on the eye of the rabbit stronger than that of procaine. The function tests carried out on cats in the course of experiments on the circulation showed no impairment of the mono- and polysynaptic reflexes, of conduction in the sympathetic ganglia and sympathetic efferents, nor of central circulation regulatory mechanisms. The fall in blood pressure brought about by electrical stimulation of the cervical vagus nerve was diminished; however, there was no proof of a peripheral anticholinergic effect. During vagal inhibition the effect of exogenously applied epinephrine and norepinephrine was augmented. The toxicity to the mouse, rat, guinea-pig, rabbit and dog, which was determined by the LD₅₀, was low.

4/AU,SO,TI,AB/10 (Item 2 from file: 173)

Reflex swallowing elicited by water and chemical substances applied in the oral cavity, pharynx, and larynx of the rabbit

Shingai T.; Shimada K.

exp.J.PHYSIOL., 1976, 26/5 (455-469),

Water and various chemical solutions were applied to the oral cavity, pharynx, and larynx of anesthetized rabbits to study their effects on the swallowing reflex. Laryngeal stimulation: Water was an effective stimulus in eliciting reflex swallowing; NaCl depressed this reflex. The effect of salt solutions on swallowing was dependent on anion species. Weakly hydrated anions had a depressing effect while greatly hydrated anions had a facilitating effect. The order of the depressing effect of the anions was Br⁻ > SCN⁻ > Cl⁻ > NO₃⁻, and the order of the facilitating effect of anions was citrate > SO₄²⁻ > HCO₃⁻. Oral and pharyngeal stimulation: Water elicited swallowing; however, this effect was less marked than that in the larynx. NaCl in concentrations lower than 200 mM had a depressing effect while at a higher concentration it had a facilitating effect. Sucrose, acetic acid, and alcohol evoked successive swallowing movements. Quinine facilitated the initiation of swallowing in the first two or three trials. It was found that water applied to the laryngeal region had the marked effect of eliciting reflex swallowing and that most gustatory substances infused into the oral and

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pharyngeal regions had a facilitating effect on the initiation of swallowing.

4/AU,SO,TI,AB/11 (Item 3 from file: 173)

A case of combined suicide (Polish)

Ossowski W.; Targonski J.

ARCH.MED.SADOWEJ KRYM. ,1977, 27/1 (89-90),

4/AU,SO,TI,AB/12 (Item 4 from file: 173)

Oxygen induced consumptive coagulopathy and its enhancement by lead acetate

Kiesow L.A.; Shapiro S.; Lindsley B.F.; Bless J.W.

THROMB.HAEMOSTASIS ,1977, 37/1 (170-176),

The exposure of rats to 100% oxygen at 1 atmosphere leads to a prolongation of prothrombin times and activated partial thromboplastin times. This development is associated with a consumption of factor XII, VI, and VII activities and with the appearance of fibrin monomers and fibrinogen degradation products. Lead acetate enhances all oxygen induced changes of the coagulation systems drastically. The Osub 2 survival time of chicks which are naturally deficient in factor XII is greatly increased over that of rats and is not affected by lead acetate. Oxygen survival times of rats suffering from chronic respiratory disease (CRD) are also significantly increased when compared with normal rats. It appears that consumptive coagulopathy and disseminated intravascular coagulation are early events in oxygen exposure, and that their development is accelerated by lead ions.

4/AU,SO,TI,AB/13 (Item 5 from file: 173)

The effect of respiratory carcinogenesis on systemic humoral and cell mediated immunity of Syrian golden hamsters

Zwilling B.S.

CANCER RES. ,1977, 37/1 (250-252),

The effect of intratracheal instillation of benzo(a)pyrene and its noncarcinogenic analog benzo(e)pyrene on the systemic humoral and cell mediated immune response of Syrian golden hamsters was evaluated. Hamsters treated with the carcinogen had a transient suppression of the splenic plaque forming cell response to sheep erythrocytes, compared with analog treated controls. The numbers of direct (immunoglobulin M) and indirect (immunoglobulin G) plaque forming cells were suppressed at the 9th week of treatment and then recovered to control levels. No suppression in the cell mediated immune response, as assessed by the rejection of Chinese hamster skin grafts, was found.

4/AU,SO,TI,AB/14 (Item 6 from file: 173)

Mechanisms of bronchial hyperreactivity in normal subjects after upper respiratory tract infection

Empey D.W.; Laitinen L.A.; Jacobs L.; et al.

AMER.REV.RESP.DIS. ,1976, 113/2 (131-139),

Inhalation of histamine diphosphate aerosol (1,6 per cent, 10 breaths) produced a 218 ± 54.6 per cent (mean \pm SE) increase in airway resistance in 16 normal subjects with colds compared with a 30.5 ± 5.5 per cent increase in 11 healthy control subjects ($P < 0.01$). There was no significant difference in mean baseline airway resistance between the two

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groups. Inhalation of saline produced no significant change in airway resistance in either group. Isoproterenol hydrochloride (0.5 per cent, 1 breath) or atropine sulfate aerosol (0.2 per cent, 20 breaths) each reversed and prevented the increase in airway resistance by histamine, indicating that the bronchoconstriction was caused by smooth muscle contraction and that post ganglionic, cholinergic pathways were involved in the mechanism. In 6 subjects with colds, citric aerosol (10 per cent, 5 breaths) caused bronchoconstriction that lasted up to 30 sec after inhalation, a significantly greater effect than that observed in control subjects or in the same subjects after recovery ($P < 0.05$). Prior inhalation of atropine aerosol (0.2 per cent, 20 breaths) prevented the bronchoconstriction after citric acid aerosol in all 6 subjects. The threshold concentration of acid that produced cough in 7 subjects with colds was significantly lower than that in control subjects or in the 7 subjects after recovery ($P < 0.05$), suggesting that the exaggerated cholinergic response was due to a decreased threshold for stimulation of the rapidly adapting sensory receptors in the airways. We have provided evidence that respiratory viral infections that produce airway epithelial damage temporarily cause these subjects to develop more bronchoconstriction after inhaling smaller doses of histamine than do healthy subjects. The fact that atropine prevents this response and that the threshold to cough is temporarily decreased is compatible with our hypothesis that airway epithelial damage by infection exposes and, thus, 'sensitizes' the rapidly adapting airway receptors to inhaled irritants, causing increased bronchoconstriction via a vagal reflex. Damage to the airway epithelium may occur as a result of mechanical factors, inhaled chemicals, and pollutants, such as ozone, infections, or perhaps as a result of the action of materials released endogenously (e.g., from mast cells, white blood cells, or platelets). 'Sensitization' of rapidly adapting sensory receptors in the airways may be an important factor in asthma and in other diseases of airways.

4/AU,SO,TI,AB/15 (Item 7 from file: 173)

Quantitative electron microscopic autoradiography of in vivo incorporation of sup 3H choline, sup 3H leucine, sup 3H acetate and sup 3H galactose in non ciliated bronchiolar (Clara) cells of mice

Patric P.; Collet A.J.

AMER.J.ANAT. ,1974, 139/4 (519-533),

4/AU,SO,TI,AB/16 (Item 8 from file: 173)

Histamine and hypersensitivity reaction of immediate type in human lung (Japanese)

Suzuki S.

JAP.J.ALLERGOL. ,1973, 22/9 (563-583+613),

It is impossible now to affirm that the hypersensitivity reaction of immediate type plays a definite role in every case of bronchial asthma. However, some of these reveal positive skin or inhalation tests with specific antigens and their sera sometimes yield positive Prausnitz Kustner (passive cutaneous anaphylaxis) reactions. Before concluding whether or not a substance mediates the hypersensitivity reaction of immediate type in an organ, it is essential to check the following: is the substance or its precursor contained in the organ? Is the substance released from the sensitized organ when challenged with specific antigens? Is the substance

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able to elicit the symptoms akin to those evoked by the hypersensitivity reaction of immediate type in the organ? Is the substance metabolized in the organ? This review on the relation between histamine and the hypersensitivity reaction of immediate type in the human lung establishes one following: histamine is contained in the human lung; it is released from the sensitized human lung when challenged with specific antigens; it is not certain whether the effect of histamine and that of antigens on the sensitized human lung are similar or different; and mysteries of the metabolism of histamine in the human lung have scarcely been uncovered.

//AU,SO,II,AB/1 (Item 1 from file: 155)

Effect of inhibitors on acid production by baker's yeast.

Šigler K; Knotkova A; Kotyk A

Cilia Microbiol (Praha) 1978, 23 (6) p409-22.

Glucose-induced acid extrusion, respiration and anaerobic fermentation in baker's yeast was studied with the aid of sixteen inhibitors. Uranyl(2+) nitrate affected the acid extrusion more anaerobically than aerobically; the complexing of Mg^{2+} and Ca^{2+} by EDTA at the membrane had no effect. Inhibitors of glycolysis (iodoacetamide, N-ethylmaleimide, fluoride) suppressed acid production markedly, and so did the phosphorylation-blocking arsenate. Fluoroacetate, inhibiting the citric-acid cycle, had no effect. Inhibition by uncouplers depended on their pKa values: 2,4,6-trinitrophenol (pKa 0.4) less than 2,4-dinitrophenol (4.1) less than azide (4.7) less than 3-chlorophenylhydrazonomalononitrile (6.0). Inhibition by trinitrophenol was only slightly increased by its acetylation. Cyanide and nonpermeant oligomycin showed practically no effect; inhibition by dicyclohexylcarbodiimide was delayed but potent. The concentration profiles of inhibition of acid production differed from those of respiration and fermentation. Thus, though the acid production is a metabolically dependent process, it does not reflect the intensity of metabolism, except partly in the first half of glycolysis.

//AU,SO,II,AB/2 (Item 1 from file: 5)

MECHANISM OF RESISTANCE OF *SACCHAROMYCES-BAILII* TO BENZOIC-ACID
SORBIC-ACID AND OTHER WEAK ACIDS USED AS FOOD PRESERVATIVES

WARTH A D

J APPL BACTERIOL 43 (2), 1977 215-230.

S. bailii grows in the presence of high concentrations of sorbic, benzoic and other short-chain monocarboxylic acids commonly used as preservatives. Starved cells concentrate these acids intracellularly, approximately as expected from the pH of the cell and the pKa of the acid. On addition of glucose, the intracellular content of preservative is considerably reduced. The glucose effect is sensitive to metabolic inhibitors and anaerobic respiration is stimulated by the preservatives. The ability to maintain a low intracellular concentration of any of the preservatives tested is induced by growth in the presence of sorbic or benzoic acid and less effectively by butyric or acetic acid. Induced and uninduced cells are permeable to benzoic and butyric acids. Benzoate and sorbate are not metabolized at a rate significant with respect to the permeation rate.

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Resistance to these preservatives apparently results primarily from an inducible, energy requiring system which transports preservative from the cell.
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